

## REMARKS

Claims 1 and 47 are amended. Claims 55-78 are added. Claims 1-11, 41, 42, 47 and 54-78 are in the application for consideration.

Claim 47 stands rejected as essentially being §101 doubling patenting over Applicant's independent claim 5. Applicant disagrees and requests reconsideration. Specifically, a test for §101 patenting is if one claim can be infringed without infringing the other. If such can occur, §101 double patenting does not exist. Claim 47, as previously presented as depending from claim 1, requires deposition during the second period of time "onto a conductively doped silicon surface". This limitation is not found in Applicant's independent claim 5. Thereby, claim 5 has no requirement of the second period of time deposition occurring onto a conductively doped silicon surface. Therefore, claim 47 can be infringed without infringing claim 5, and *vice versa*. Accordingly, the Examiner's double patenting rejection is seen to be in error, and should be withdrawn. Action to that end is requested.

Applicant's claim 47 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form, including all the limitations of the base claim and any intervening claims. Applicant's claim 47 has been so rewritten, and accordingly, should be allowed. Action to that end is requested.

Applicant's independent claim 1 stands rejected as being anticipated by U.S. Patent No. 6,245,674 to Sandhu. Independent claim 1 has been amended

such that the first feeding of TiCl<sub>4</sub>, without feeding any measurable silane during the first period of time, is effective to avoid measurable formation of titanium silicide on the substrate during said first period of time. Such is clearly contemplated by Applicant's application as-filed wherein no titanium silicide is formed during the first period of time. The '674 Sandhu patent clearly forms titanium silicide during its first period of time at col.3, lns.26-62.

Claim 1 is further amended to emphasize that the titanium silicide-comprising layer deposited during the second period of time is deposited on (meaning in at least some direct physical contact therewith) a conductively doped silicon surface of the substrate. Sandhu clearly only discloses metal silicide deposition upon a previously formed titanium silicide region 24, and thereby, the titanium silicide deposition, as described in col.4 of the Sandhu '674 patent, is onto a previously formed titanium silicide region, and thereby, not "on" a conductively doped silicon surface of the substrate.

Accordingly, Applicant's claim 1 as amended recites something which is not found within the Sandhu '674 patent, and the anticipation rejection thereover must be withdrawn. Action to that end is requested.

Independent claim 1 also stands rejected as being anticipated by U.S. Patent No. 5,976,976 to Doan et al. Claim 1 as amended is not so anticipated. Specifically, in Doan et al.'s first-described embodiment, a silane is also provided with TiCl<sub>4</sub> in the formation of silicide (col.4, ln.39 – col.5, ln.5), which is contrary to Applicant's claim 1.

The '976 Doan et al. patent also discloses a second embodiment and alternative thereto at col.5, Ins.26-64. In a first aspect of the Doan et al. second embodiment (col.5, Ins.26-59), TiCl<sub>4</sub> reacts with silicon of the substrate to form titanium silicide. This is contrary to applicant's claim 1 which recites that the first feeding of TiCl<sub>4</sub> in the absence of measurable silane is effective to avoid measurable formation of titanium silicide on the substrate during such first period of time.

In the second aspect of the second embodiment of Doan et al. (col.5, Ins.59-64), an elemental titanium layer 17 is formed over the base of the contact opening, and at a time subsequent is converted to titanium silicide. Regardless of when such titanium silicide is formed, any subsequent CVD of titanium silicide in the presence of silane must occur either over previously-formed titanium silicide or elemental titanium, and thereby, is not being deposited "on a conductively doped silicon surface of the substrate" during the second period of time.

Accordingly, Applicant's claim 1 as amended recites something which is not disclosed by the embodiments of U.S. Patent No. 5,976,976 to Doan et al., and the anticipation rejection thereover should be withdrawn. Action to that end is requested.

Applicant's claims 2-4, 6-9, 41 and 42 stand rejected under 35 U.S.C. §103 as being unpatentable over the '674 Sandhu patent. However, the Sandhu patent is not §103 prior art to this application. Specifically, this application was filed after November 29, 1999. Accordingly, the provisions of the amended

version of 35 U.S.C. §103(c) apply. This application has a priority filing date of March 6, 2002. The '674 Sandhu patent is only understood to potentially qualify as prior art under 35 U.S.C. §103(c). This application and the application which claimed the '674 Sandhu patent are both assigned to Micron Technology, Inc. The undersigned hereby asserts that the subject matter that became the '674 patent and the invention claimed herein were, at the time the invention herein was made, owned by Micron Technology, Inc., or subject to an obligation of assignment to Micron Technology, Inc. Accordingly, the '674 Sandhu patent is not §103 prior art to this application, and any such rejection thereover must be withdrawn. Action to that end is requested.

No admission is made regarding the propriety of the Examiner's last rejection, even were the subject matter of the '674 Sandhu patent prior art to this application.

Regardless, Applicant's dependent claims should be allowed as depending from allowable base claims, and for their own recited features which are neither shown nor suggested in the cited art. Action to that end is requested.

The added dependent claims are patterned after other dependent claims previously in this application, and depend from independent claims 5 and 47.

This application is believed to be in immediate condition for allowance,  
and action to that end is requested.

Respectfully submitted,

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